

a black spot on vertex, a black ring round occiput and neck; antennæ length of body, black; maxillæ and maxillary appendages fulvous. The prothorax yellow anterior edge; mesothorax, a broad black longitudinal line on mesonotum anterior end, with a yellow narrow and longer line on each side, a black lateral line from junction of anterior wing to the yellow line of the prothorax, with narrow black curved lines at lateral edges, small black spots above the junction of wings, and a small dark triangular spot at posterior edge of mesonotum, two small yellow spots beneath the junction of the wings and two larger yellow spots running diagonally towards intermediate coxæ; metathorax, a large triangular black spot on anterior edge of metanotum, with a small yellow transverse bar at its base (post-scutellum), and a large yellow lateral line diagonal towards posterior coxæ, scutellum mottled with yellow, slightly and sparsely acicular at apical end; sternum black; wings iridescent finely hairy and ciliated, hairs black springing from minute tubercles; stigma and nervures brownish; areolet small, subquadrate. Legs ferruginous; coxæ yellow above; tarsi joints barbed and slightly hairy, the last joints of tarsi and ungues dark brown: posterior pair, coxæ black below with a ferruginous line; trochanters black; femora with a fusco-testaceous longitudinal line above: anterior pair, trochanters with a brown line; spurs long on the two posterior pairs. Abdomen ferruginous above, yellow below, a line of fuscous spots at lateral margins of the 3rd on to the 6th segments, a narrow darkish line on the lateral edges of the first three segments, and a light ferruginous one below it on the first four segments; extremity yellow, with a minute black style on each side; ovipositor 4 lines long, light ferruginous at apex, sheaths darker, ciliate. Length of body, $4\frac{1}{2}$ lines.

Hab. Forests at Norsewood, County of Waipawa; 1884: W.C.

ART. XVI.—*Notes on New Zealand Fishes.* By W. ARTHUR, C.E.

[Read before the Otago Institute, 14th October, 1884.]

Plate XIV.

ACANTHOPTERYGII.

Family CIRRHITIDÆ.

Latris lineata, Rich., variety. Pl. xiv., fig. 1.

D. 22/27; P. 16; V. 5; A. 15 remaining; C. $15\frac{1}{4}$; Br. 5; Pyl. c. 4;

Lat. l. 63; trans. l. $\frac{6}{14}$.

A SPECIMEN of this fish, which is rather rare here, was given me by Mr. A. K. Smith, of Prince's Street, Dunedin, having been caught in Otago

Harbour, about the 5th January, 1884. Mr. Melville also recognized it as similar to a fish sometimes received from Stewart Island in odd specimens. It agrees so closely with *L. lineata*, or *Mendosoma lineata*, described by Professor Hutton in Trans. N.Z. Inst., vol. v., p. 260, that it must be regarded as of the same species, although by certain differences I have observed, it may possibly be more accurately called a variety of that species. These differences are greater length as compared with depth of body, a greater length of longest dorsal rays, the absence of teeth, and in being very hog-backed.

As this species might easily be mistaken for a variety of moki or trumpeter, both species of the same genus with *L. lineata*, I will note some of the main distinctions for reference. From both moki and trumpeter it differs in having fifteen longitudinal stripes or lines along trunk of a faint yellow colour, while the moki has none, and the trumpeter three stripes along side and one along dorsal ridge. Its mouth is much more protractile and has free end of maxillary ovate, while in these allied fish it is triangular. Further differences are in depression of interorbital space, arrangement of fins, with body not so deep, and form of air-bladder.

Description.—Body compressed, deepest below sixth dorsal spine. Hog-backed between head and dorsal fin; interorbital outline very depressed. Head goes $4\frac{7}{10}$ times into total length, and 4 times in length without the caudal; depth of body goes $4\frac{2}{10}$ times in total length; jaws equal and mouth very protractile and seemingly toothless; cleft of mouth oblique, free end of maxillary ovate and not extending to anterior margin of orbit; margin of opercles smooth and forming a rounded angle opposite upper origin of pectoral fins; anterior half of dorsal spinous, posterior soft, sixth to ninth spines longest; pectoral rays soft and branched except two anterior; ventrals thoracic with one spine and four soft rays; anal fin damaged, but posterior part with soft rays; tail fin bifurcate with branched rays. Lateral line continuous; scales cycloid large and adherent on trunk and small on cheeks. *Colour*: Indigo-blue on back and sides shaded off into white on belly. There are about fifteen more or less distinct olive-yellow longitudinal stripes on sides of trunk, with an azure tinge between the stripes; dorsal fin clear without colour, also belly fins clear or slightly dusky; tail fin olive colour. Eye bluish-black, iris white—this organ being large and full. Palate covered with small dark spots.

The sex in specimen was indistinguishable, the viscera being partially decayed. Pyloric cæca short and narrow. Stomach simple, air-bladder simple and of silvery colour, intestine very long. Although not eaten by me, this fish looked firm and good for the table.

DIMENSIONS.					Inches.
Total length	..	..	..	..	11·7
Length without caudal	..	..	..	..	10·0
Depth or height..	..	..	..	..	2·8
Least depth of tail	..	..	..	..	0·8
Head ..	..	..	..	..	2·5
Eye from snout ..	..	..	..	..	1·1
Diameter of eye..	..	..	..	..	0·4
Dorsal from snout	..	..	..	..	3·0; length 5·8
Pectoral ..	..	..	..	..	2·6 „ 1·7
Ventral ..	..	..	..	..	4·0 „ 1·4
Anal ..	..	..	..	..	7·0 „ 1·6

References to this species.—Trans. N.Z. Inst., vol. v., p. 260. Cat. Col. M., p. 83. A specimen is preserved in spirits in Otago Museum.

Family BERYCIDÆ.

Trachichthys trailli, Hutton. Pl. xiv., fig. 2.

D. 5/13; P. 13; V. 1/6; A. 3/10; C. 19 $\frac{5}{8}$; Br. 6; Pyl. c. 11; Lat. l. 118.

A specimen of this rather rare fish was caught in Otago Harbour, 6th September, 1884, and handed to me by Mr. A. K. Smith, also a smaller one since that date. The only described specimen I can find is one from Stewart Island sent to Professor Hutton (Trans. N.Z. Inst., vol. viii., p. 212), but which is not figured. As this fish Dr. Günther says ("Study of Fishes," p. 420) belongs to a family of deep-sea forms, some of which do not occur in shallower water than 200 fathoms, it is of some interest that the two individuals given me were taken in the waters of the harbour here, which at low water has an average depth only of about 3 fathoms. The weather had been very stormy for some time previously, at the same time the fish under description had not passed its spawning period, but had two well-advanced lobes (apparently milts), no eggs were visible to the unassisted eye.

In form body compressed and armed with small adherent ctenoid scales, with a patch on the cheeks. Length without caudal 2·2 times the height of body, and 3·3 times the length of head. One dorsal fin armed anteriorly with fine strong spines; ventrals thoracic with one and anal with three spines; caudal forked. Snout blunt and terminating in two short and sharp spikes or spines; lower jaw prominent; cleft of mouth very oblique; maxillary long and expanded into a club-like flat free end covering the end of intermaxillary, which is rather longer than but has similar free end to maxillary in form. Mouth protractile. Preoperculum with two vertical ridges, the anterior being prolonged towards its inferior margin or lower end into a long sharp spine covering the branchiostegals. Another spine crosses the operculum in the direction of a horizontal line from the centre of the eye and projects over the humerus; while a third spine lies immediately above the origin of the lateral line and humerus, and points

towards the tail. Striæ radiate from origin of spine on operculum, which coincides with upper end of posterior ridge, in all directions across surface of operculum. Suboperculum is narrow with a sinuous outline. Interorbital space covered by three smooth plates, the two anterior being diamond-shaped. Eye large and full, black pupil, and iris bright silvery; nostrils close to eye, large and surrounded by bright coloured plates. The keel carries eleven scales, or bony plates, terminating in sharp spines, from the ventral to the anal fin. Anal opening exactly between the ventrals, lateral line slightly sinuous. *Colour*: A silvery fish with a very faint nut-brown tint along dorsal aspect, fins all more or less scarlet. The palate of a beautiful blue streaked longitudinally with white. *Teeth* small and villiform, present on mandible, maxillary, palatines, vomer and tongue. *Scales* small, ctenoid, and covering part of caudal fin, also the cheek. Those along lateral line distinguished by small spines like needle points, of a bright silvery colour. *Stomach* siphonal; contents, remains of a small shrimp. The abdominal cavity lining of a black colour. Air-bladder black, and lying close under the vertebræ. Two lobes about $1\frac{1}{4}$ inches long, each containing a clear jelly-like substance—appeared to be milts. Pyloric cæca 11 in number, from $\frac{1}{2}$ –1 inch in length, small in diameter, and covered with a great deal of fat.

DIMENSIONS.

						Inches.
Total length	..	..	..	..	..	7·5
Length	..	..	..	..	..	6·1
Depth or height	..	..	..	..	..	2·7
Head	..	..	..	..	..	1·8
Least depth of tail	..	..	..	..	..	0·8
Eye (diameter)	..	..	..	..	..	0·6
Eye from snout	..	..	..	..	..	0·7
Dorsal	..	..	..	..	..	2·6; length 2·1
Pectoral	..	..	..	..	..	2·1 „ 1·2
Ventral	..	..	..	..	..	2·4 „ 0·9
Anal	..	..	..	..	..	4·1 „ 1·0

References.—Günther's Study of Fishes, pp. 420–422; Trans. N.Z. Inst., vol. vii., p. 245; vol. viii., p. 212.

In Otago Museum there is a stuffed specimen, also one in spirits.

FAMILY CYTTIDÆ.

Zeus novæ-zealandiæ, n. s. Pl. xiv., fig. 3.

D. $1\frac{1}{6}/31$; P. $1/10$; V. $1/6$; A. $2/30$; C. $13\frac{2}{3}$; Br. 7; Pyl. c. 82; Lat. l. 114.

A specimen of this fish was handed to me by Mr. William Gray on September 8th, 1884 (similar in general appearance to the John Dorèe), which had been taken in the trawl of the cutter "Dauntless," in 25 fathoms of water, off Otago Heads. Two other specimens of the same species and nearly the same size as mine were about the same time given by Mr. Melville to Professor Parker as a new fish, and which had been caught in Otago

Harbour. The figure of *Cyttus australis*, No. 28, "Cat. N.Z. Fishes," 1872, is very nearly a counterpart of my specimen. The differences are that my fish has a smaller head, larger pectoral fin, one short spine at origin of dorsal fin, a series of rough small scales on a dark line along base of dorsal fin, and continued to the interorbital space, and along anal fin base, and continued to the isthmus. The scales also on the trunk are cycloid, while those of *C. australis* are described as being ctenoid. As the characters of this fish partake of those of *Zeus* and *Cyttus* I am in doubt to which genus it belongs, and propose provisionally to name it *Zeus novæ-zealandiæ*.

In *form* body very deep and compressed, eyes large and lateral; head contained 3·5 times and depth 1·6 times in length; greatest depth in vertical from fourth dorsal ray. Mouth very protractile, can be protruded nearly three inches, cleft nearly vertical; seven branchiostegals; isthmus deeply notched; keel fluted, especially from ventral to anal, where it forms a deep pocket in which the ventrals lie hidden when at rest; one short dorsal spine, one long ventral spine, and two short anal spines; rays of first dorsal and of pectorals were much broken, probably in the trawl; caudal fin, straight margin. Lateral line is gracefully curved and recurved. The coracoid bone is very large and strong. *Teeth* small and villiform, present on mandible, maxillary, and on vomer. *Scales* cycloidal, small, smooth and adherent: a series of small rough scales along dark line at base of dorsal and prolonged to interorbital space, also along base of anal fin and along keel to isthmus, but scarcely formidable enough to be called bucklers or bony plates, cheeks covered with small smooth scales. In *colour* a very silvery fish over the whole body and head; eye, black pupil, iris silvery white and brilliant; fins, first dorsal black, second dorsal, pectoral, and anal pink, ventral white with black tips, caudal crimson with white posterior margin tipped with black. The *stomach* contained white mucus; ovaries large and very full of ova the size of large pin points, ovarian duct terminating at vent; air-bladder close to vertebræ, large, simple, cylindrical, and of a silvery colour: pyloric cæca numerous and small, also covered with much fat, number 82. The condition of the ovaries was almost gravid.

DIMENSIONS.

						Inches.
Total length	..	..	..	..	..	7·8
Length	..	..	..	..	..	6·7
Head	..	..	..	..	..	2·2
Depth or height	..	..	..	..	..	4·0
Least depth of tail	..	..	..	..	..	0·45
Eye diameter	..	..	..	..	..	0·70
Eye from snout	..	..	..	..	..	1·30
Dorsal from snout	..	..	..	..	..	3·40; length 3·40
Pectoral	..	..	..	..	..	2·00
Ventral	..	..	..	..	..	3·00
Anal	..	..	..	..	..	4·00

The extraordinary protractile mouth and small teeth of this fish are suggestive of the habit of passing through shoals of minute fish-food with the mouth drawn out so as to catch large quantities.

Professor Parker has a mounted specimen in the Otago Museum.

References.—Günther's Study of Fishes, p. 451; Cat. N.Z. Fishes, pp. 19 and 112; Trans. N.Z. Inst., vol. vii., p. 247, and vol. ix. p. 465.

Family TRACINIDÆ.

Leptoscopus angusticeps, Hutton, var? Or,

Leptoscopus canis, n. s. Pl. xiv., fig. 4.

D. 32; P. 21; V. 6; A. 39; C. 14; Br. 6.

A specimen of this fish caught off Purakanui was sent me by Mr. A. K. Smith, of Prince's Street, Dunedin, as a new fish, on May 6th, 1884. Closely allied species are common enough in our fish shops. It bears a close resemblance to *L. angusticeps*, but differs in having a more pointed snout; the teeth are cardiform and in two rows in the jaws, the intermaxillary besides having two groups of canine-like teeth or fangs. Eyes nearly vertical. The first four anterior dorsal rays are only half as long as the other rays. The caudal fin has five more rays; and it differs from *L. robsonii* chiefly in the interorbital space being broad and in the length being eight times the height of body.

In *form* the trunk is long and cylindrical; head one-fourth of length without the caudal, depth of body one-eighth; one continuous dorsal fin from nearly opposite middle of pectoral to near the caudal, in length exactly one-half total length. Pectoral large broad and ovate; ventral jugular supported on six rays; anal continuous from nearly a third of pectoral from origin to opposite posterior end of dorsal, and it is five-ninths total length of fish. All the fins are soft-rayed excepting one or two spines at origin of each. The gill-covers, the sub-operculum in particular, are soft. Eyes small and on top of head, nearly vertical; interorbital space flat and broad, outline depressed. Cleft of mouth vertical, lower longer than upper jaw and projecting. Intermaxillary extends round whole of upper side of mouth, the central plate or process flat, pointed, half-inch long and fitting space between the nasal bones. Maxillary is half length of intermaxillary, superior and with a triangular or curved free end pointing downwards. Both bones are connected by a thin transparent diaphragm and form a very protractile upper jaw. Teeth cardiform on mandible and maxillary, small and sharp, with two groups of long canines on the intermaxillary, a few teeth on palatines, none on vomer or tongue and no oral filament, no humeral spine. In *colour* olive-green on back and head with numerous small dark spots particularly on anterior part of back, belly white. The sides are further marked by light transverse bands which seem to be coincident with

the dermal and hæmal apophyses or with the flakes of the flesh. All the fins are clear, but are distinguished by a bright red margin. The sides of head silvery and body generally light in colour. *Scales* small, adherent and soft.

It does not look like a very edible fish, but I do not know anyone who has tried it.

The *stomach* is siphonal; intestine long and folded a number of times in short turns. Liver large; no cæca discernible. From the stomach of a larger specimen about the time I got this described one, a sprat was taken, showing the presence of these delicious fish on the coast at the time. Indeed Mr. Smith informs me he has taken them from the stomachs of cod and other fish at all seasons of the year.

DIMENSIONS.

						Inches.
Total length	..	..	..	..	..	9·0
Length without caudal	..	..	..	..	..	8·0
Depth	..	..	..	..	..	1·0
Least depth of tail	..	..	..	..	..	0·3
Head	..	..	..	..	..	2·0
Diameter of eye	..	..	..	..	..	0·16
Eye from snout	..	..	..	..	..	0·60
Dorsal	„	..	..	..	..	3·10; length 4·5
Pectoral	„	..	..	..	..	2·30 „ 1·7
Ventral	„	..	..	..	..	1·70 „ 0·7
Anal	„	..	..	..	..	2·80 „ 5·0

I have drawn this fish life size and had it reduced.

References.—Trans. N.Z. Inst., vol. v., p. 275; vol. vi., p. 104; vol. vii., p. 248; and vol ix., p. 469, where closely allied species are described.

Specimens of *L. angusticeps* in Otago Museum.

ACANTHOPTERGYII COTTOSCOMBRIFORMES.

Family PSYCHROLUTIDÆ, Günther.

Neophrynichthys latus, Günther. The Toad Fish. Pl. xiv., figs. 5 and 5A.

D. 10/13; P. 20; V. 1; A. 9; C. 10; Br. 4; gills 4.

A specimen of this fish, said by Dr. Günther to be very rare, was got in the trawl of the cutter "Dauntless," off Otago Heads, in October, 1884. Head broader than long, and being rather less than one-third of the length without the caudal. Depth of head five-eighths of its length; depth of body one-third of length. Head broad and flat, interorbital space one-half of breadth of head; mouth wide, lower jaw slightly projecting. The trunk tapers rapidly towards the extremity of the tail, while the whole fish including the fins is covered by a loose flabby naked skin. I made an incision in this skin but found no fluid beneath, and inflated it to a great extent by blowing through a quill. The teeth are very fine and in villiform bands on

both jaws and pharyngeals, but absent on palatines and vomer. Lower pharyngeals separate. Premaxillary slightly protractile. Eye lateral, not large. Pectoral continuous with branchiostegals which coalesce in their coverings with the isthmus, and which thus is not externally visible. No apparent lateral line. Fins have soft branched rays, the dorsal being long and continuous though divisible into two, caudal fan-shaped. Ventrals thoracic and secreted in a pocket of the skin, one simple spine in each. — Vertebræ and apophyses bony. *Colour*, dark-brown on head and trunk, somewhat lighter on belly, with black more or less distinct bands round margin of the fins, which are white-tipped. The band is plainest on the caudal fin. A row of oval salmon-coloured spots round margin of posterior dorsal and pectoral fins, and numerous round, oval and crescent-shaped spots of same colour scattered all over head, trunk, and fins, giving this fish a leopard-like appearance. Those on top of head are lighter, and have scattered through them many small black pigment spots. *Stomach*.—This organ was large and balloon-shaped, and contained two crabs an inch and a half across the tips of the claws each, also three shrimps and a stringy-like mass which I could not recognize. There was no visible outlet that I could find from the stomach to the vent, and the mouth was full of excreta. No air-bladder present.

It is probable that this species is capable of rising through the water by the inflation of the loose covering which its body possesses, and so feeds on the surface, as at other times it manifestly does on the bottom.

DIMENSIONS.

						Inches.
Total length .. .. .	..	..	..	..	..	7.3
Length .. .. .	..	..	..	..	..	6.0
Least depth of tail .. .. .	..	..	..	..	..	0.55
Head .. .. .	..	..	..	..	..	2.3
Eye diameter .. .. .	..	..	..	..	..	0.4
Eye from snout .. .. .	..	..	..	..	..	0.8
Dorsal from snout .. .. .	..	..	..	..	..	2.8
Pectoral (superior origin) .. .. .	..	..	..	..	..	2.2
Ventrals .. .. .	..	..	..	..	..	2.2
Anal .. .. .	..	..	..	..	..	4.5

Several more individuals of this species were taken by above cutter off the Heads about the same date as above-described one. One of these nine inches long came into my possession, and an examination of it was made from which I am enabled to add these remarks :—

D. 9/15; P. 22; V. 1; A. 10; C. 10; Br. 4; Pyl. cæca 4 (?).

Owing to the apparently very perishable nature of the viscera (in part) I only made out as I think a short delicate intestine, but could not discover any opening into stomach or outwards towards the vent

either. The cæca situated where the duodenum usually occurs were plainer, but not so decided in character as to be unmistakable. The ovaries however were present and very full of nearly ripe ova, very red and about the size of sago piles. The roes measured in inches 2·5 x 1·0 x 0·8, the cross section being in shape a sector of a circle of which radius and arc in size are represented by 1·0 and 0·8 in dimensions just given. A distinct strong ovary duct connected the ova sacs with the vent, the external end forming that opening. The abdominal cavity was full of excreta, similar in its dark colour and offensive odour to that found in mouth of the first specimen I have described. The stomach, exactly similar in form to that above-mentioned, contained fourteen egg-like or larval bodies, almond shaped, white, and with hard cores a quarter to half inch each in length enclosed in a stringy spiny mass, with a few remains of shrimps. No air-bladder present. Liver large and heart lay right underneath the lower pharyngeals.

This species is rather loathsome-looking and has not the appearance of a good edible fish.

References.—Trans. N.Z. Inst., vol. viii., p. 214. Study of Fishes (Günther), p. 469. A specimen in spirits is preserved in the Otago Museum.

Family BLENNIDÆ.

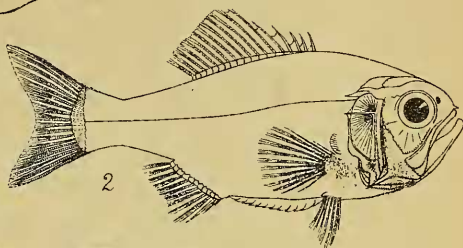
Trypterygium compressum, Hutton. The Blenny. Pl. xiv., fig. 6.

D. 4/10/12; P. 10; V. 2; A. 22; C. 11; Br. 6.

This specimen of a blenny was caught off Otago Heads, May 6th, 1884, and I have made a life-size drawing of it for comparison, by which it may be seen to differ in greater robustness from any I can find figured in the Transactions of the Institute. In *form* the head is contained a little more than four and a half times in the total length; trunk compressed slightly and deep, greatest depth goes three-and-a-half times in total length, and is in vertical from third spine of second dorsal fin. The subopercle is prolonged into a sharp spine at posterior margin, which lies exactly on origin of lateral line. Mouth protractile, jaws equal and cleft very oblique. Intermaxillary in front of and not articulated with maxillary; maxillary with triangular or club-shaped free end. Teeth villiform and fine, present on maxillary, mandible, palatines, and head of vomer. Eye large, lateral and close to interorbital space, pupil and iris dark red with a small bright silvery spot on inferior margin of iris. Membrane of branchiostegous rays confluent with opercles. First dorsal fin detached and erect like a crest above the head, second and third continuous; spines mostly soft, but not branched in dorsal pectoral and anal fins; ventrals jugular, etc., consisting only of two bare rays. Caudal



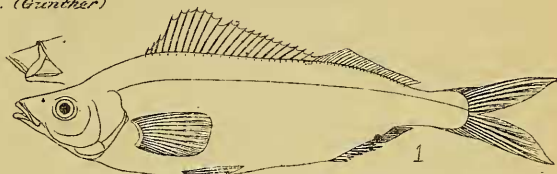
Neophrynichthys Latus, (Günther)



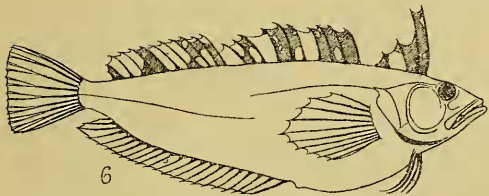
Trachichthys Trailli,
(Hutton)



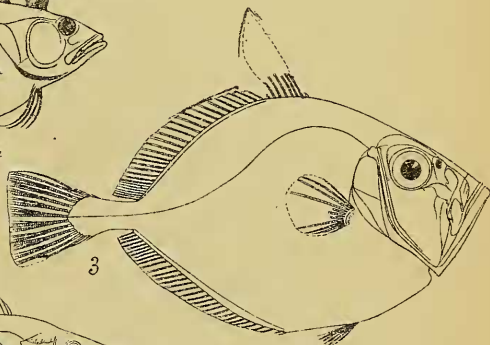
Neophrynichthys Latus, (Günther)



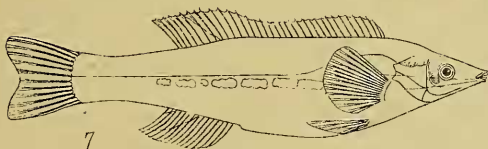
Latris Lineata, (Rich.) var.



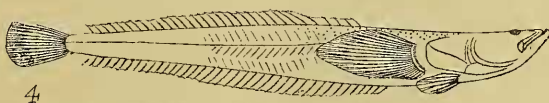
Trypterygium Compressum, (Hutton)



Leus Novae Zealandiae, n.s.



Odox Vittatus Sol. var.



Leptoscopus Angusticeps (Hutton) var. or *L. Carris*, n.s.

FISHES

with convex posterior margin, rays branched. Lateral line detached in two portions. *Colour*, head, trunk and fins mottled with patches of dull red on a yellow ground; most of the fin-rays variegated like tortoiseshell, forming altogether a prettily-marked fish. Scales cycloid and adherent, cheeks naked. This individual was a gravid female, its eggs, of a yellow colour and in size like sago piles, were protruding from the vent. *Stomach* continuous with intestine and both curved about the abdominal cavity; air-bladder simple.

DIMENSIONS.

						Inches.
Total length	..	..	..	..	..	8.0
Length	..	..	..	..	..	6.8
Depth	..	..	..	..	..	2.2
Least depth of tail	..	..	..	..	..	0.45
Head	..	..	..	..	..	1.8
Diameter of eye	..	..	..	..	..	0.3
Eye from snout	..	..	..	..	..	0.6
Dorsal	..	..	..	..	..	1.1; length 5.3
Pectoral	..	..	..	..	..	1.9 „ 1.6
Ventral	..	..	..	..	..	1.4 „ 1.0
Anal	..	..	..	..	..	3.5 „ 3.3
Caudal	..	..	..	..	..	6.8

This fish, although gay in colours, is not considered of value as a food fish locally.

A specimen beautifully preserved in its native tints by Professor Parker's glycerine process is at present in Otago Museum.

References.—Trans. N.Z. Inst., vol. v., p. 263; vol. viii., p. 214.

ACANTHOPTERYGII PHARYNGOGNATHI.

Family LABRIDÆ. "WRASSES."

Otax vittatus, Sol., variety. Pl. xiv., fig. 7.

D. 35; P. 15; V. 4; A. 15; C. 14.

A specimen brightly-coloured of this fish caught off Otago Heads, May 9th, 1884, was given me by Mr. A. K. Smith, fishmonger, Dunedin. The fish is occasionally caught, although not numerous seemingly, about our coast. I have called it a variety, as it differs from Professor Hutton's described specimens in the greater length of the tail portion from the dorsal to the caudal fin, and also in its colours. As to the latter, I must observe that none of the few individuals I have seen agree closely in colour, so that as a distinctive mark of this fish, that is not of much use evidently.

Form.—Head triangular, lips fleshy and movable, jaws each with a band of white confluent teeth forming rather formidable cutting edges, gape very small and contracted. Hindmargin of opercula pointed into two blunt angles, one forming posterior extremity of operculum, and the other

of the suboperculum. The eye is large, and contained six times in length of head; iris yellow, with blue and red circular bands; cheeks naked, except a patch of scales on operculum and suboperculum. Head one-fifth total length, which is four and a half times the height. Body rounded, and carrying its depth well towards the tail; dorsal outline sinuous, abdominal well curved; greatest depth of body below twelfth dorsal spine. One dorsal fin long and continuous, supported on soft spines, a few at posterior end being branched. Ventrals thoracic and having four branched rays, nearly confluent at base, which is situated a little behind pectorals. Anal fin not long with first ray under twenty-fifth dorsal ray. Caudal slightly forked, truncate and carried on branched rays. Lateral line curved above pectoral and nearly straight thence to the caudal. Scales soft and adherent.

Colour.—Rather a gay and striking fish; dorsal half and head dark olive-green, and mottled with small blue spots; abdominal half of body greenish-yellow with small blue spots. A golden band runs from mouth along cheeks to pectoral fins, thence to tail it is broken into a line of broad irregular patches of a peach colour, which lie below the lateral line and terminate a little beyond last ray of anal fin. Dorsal fin dark olive except a transparent patch at posterior extremity. Pectoral and ventrals clear. Anal dark, a transparent band near posterior extremity. Caudal fin dark olive-green.

Stomach siphonal; intestine long and lying along abdomen in a number of turns. Ovaries clear in colour, ova very small. Air-bladder simple, cylindrical and silvery in colour, lining of abdominal cavity also silvery.

DIMENSIONS.

						Inches.
Total length	..	..	..	..	..	9.3
Length	..	..	..	..	..	8.0
Head	..	..	..	..	..	1.8
Least depth of tail	..	..	..	..	..	0.85
Height	..	..	..	..	..	2.0
Eye diameter	..	..	..	..	..	0.3
Eye from snout	..	..	..	..	..	0.8
Dorsal from snout	..	..	..	..	..	2.1; length 4.0
Pectoral	..	..	..	..	..	2.0 „ 1.2
Ventral	..	..	..	..	..	2.5 „ 1.2
Anal	..	..	..	..	..	5.0 „ 1.3

On August 30th another example of this fish was in Mr. Smith's shop, but not so brightly coloured as the above-described one. He examined it and found the vertebræ to be of a light green colour, but there was no decided sexual development. Although the above specimens have heads with sharp snouts, while *Coriodox pullus*, the kelp fish or butter fish, has a blunt snout, yet in other respects they are so like as to render it possible that the latter may be but the adult form of the former. Our local kelp fish, while